

Q U A N T A

THE NEWSLETTER OF THE INDEPENDENT QL USERS' GROUP

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INFORMATION ON THE GROUP

Membership of the Group is by subscription to the Newsletter which is published monthly. Membership details are obtainable from the Group Secretary. Membership of the Group is open to anyone with an interest in the Sinclair QL microcomputer.

Members requiring assistance with problems related to the QL may call the Secretary. An attempt will be made to put them in touch with a member who can help with the problem.

Workshops will be arranged from time to time in various parts of the country.

The Group maintains a software library. Most of the programs are free to members. The library list is published from time to time in the newsletter.

A membership list is obtainable from the Secretary.

Please send all contributions for the Newsletter to the Editor.

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EDITORIAL

Membership is still rather disappointing; Brian tells me it is about 525. The lack of members doesn't mean a lack of contributions to Quanta however, as I have far more material than I can use in this issue. We are sending out letters with an S.A.E. for reply to 64 members who did not renew their subscription, in an effort to find out what we are doing wrong, if anything.

The mysterious breakout program I published in Issue 7 (which did not work) belonged to David Beasela, who had mislaid it somewhere. He has now finished it, and it is in the library.

Due to lack of time, caused by my having to retype a considerable amount of the material sent in, I am unable to print any of this on a daisy wheel, unfortunately. The logistics of finding a suitable printer and transferring the files to another system are just too difficult and time consuming. I think it will have to wait until we have enough members to justify the purchase of one, as was agreed at the AGM.

In future, I would appreciate it if members would send in any contributions longer than about half a page (about 500 words) on a Microdrive cartridge in the form of a Quill file, or a text file produced by a text editor such as the one supplied by Metacomco with their assembler. I will then be able to transfer the file to my CP/M system, saving a great deal of retyping on my part. The cartridges will be returned ASAP.

Tim Hartnell, of Interface Publications, has paid the Group £200 for permission to reprint some of the items from Quanta in a forthcoming book of QL hints and tips. Members whose contributions are used will receive a copy of the book. The book will also mention the Group and its activities. If any member objects to this arrangement, please let me know, and I will ask. Tim not to include the relevant material.

The QL is now on sale at a number of retail outlets. I have been going round the local shops such as Dixons, Boots, John Lewis, etc., giving the managers sample newsletters and IQLUG application forms. If any members would like some forms to give to their local shops please get in touch with Brian. We will also be trying to get the head offices of the multiples such as Dixons to distribute copies to their branches. Bob Cleaver who handles all the Spectrum dealers was most helpful in this respect, photocopying the forms and sample newsletters for distribution.

Thanks to Mike Johnston, organiser of the ZX Microfair, at Alexandra Palace, we will be getting a free stand at the next Microfair, on 17/18 November, the week after the Swindon Workshop. We could do with three or four members to help on the stand. Free tickets for those helping, of course. The show should be worth attending, as most of the firms producing QL software and hardware will be there: GST, Metacomco, CST, Commuter One, Quest, etc. Please give me a ring if you can lend a hand.

I am starting a beginners section. Could the more experienced members please let me have some suitable articles for inclusion. I would also like to hear from beginners what sort of articles they would like to see. I'll publish these requests, and hopefully, the articles will get written.

Lots of you seem to be making use of the library, but virtually no-one is contributing material. Surely some of you have written some useful programs that

you would like to share with other members. I have been converting some stats. programs I wrote a long time ago for the TRS-80 into SuperBASIC. and these have been sent to Rob. If any members are into non-parametric statistics. ANOVA and similar things, I can let them have my original listings for conversion; there are about eight more to be done.

You should have received a copy of the Swindon Workshop program, and a booking form, with this issue. We have arranged a very interesting programme, and it promises to be a most enjoyable weekend. Give Brian Pain a ring if you need any more information. The forms should be sent direct to the hotel.

Sinclair are about to release a 'tool-kit' cartridge for the QL that will contain most of the items mentioned on the survey form you recently received.

Once again I have far more material than I can use in this issue. I must apologise for leaving some of this out and including a lot of my own stuff. but I feel that some of my items are rather important. From now on I shall be publishing fewer members' letters, and concentrating more on the 'meatier' items.

Leon Heller

MEMBERS' LETTERS

Is it intended that IQLUG will attempt to negotiate special offers for members, as for instance Beebug does for BBC owners, or is this too much to hope for. Also will IQLUG take members' (or commercial) advertising to defray costs of magazine production.

I'm pleased to see a move away from the newsletters consisting of little more than a selection of letters bemoaning no-delivery, and subroutines for a monitor not suited to the QL, and containing some real QL info. The pause key discovery is most welcome.

If I produce anything of general interest I'll pass it on. So far I've got an assembler in BASIC that only implements 50% of the instructions, and is slow (but good enough for use), and a very primitive screen editor. I doubt if either are of any interest, so am not enclosing them.

Mike Finley,
Chankly Bore,
15 Amity Road,
Reading,
Berks.

/* We do not intend to solicit discounts for members from suppliers, since the function of IQLUG is the dissemination of information. We are all in favour of suppliers offering discounts to members, of course. Regarding advertising, members noncommercial advertisements are free. and we accept paid advertisements from suppliers.

Mike has now completed his assembler, and donated it to the library. It will be available when Rob has a full second cartridge, and we can get it to work with version JM machines, so send in your contributions now. */

It's a bit difficult for me to reply to your questionnaire on QL firmware, since I've only just got my QL and don't know what's possible using the existing facilities. However, there is one item on your list which is absolutely essential. I am filled with horror at the idea of writing Basic programs for the naive business user without full error-trapping. It is essential to be able to tell him exactly what to do if the microdrive jams or the cartridge is full or the QL runs out of memory. While it is true that syntax and other programming errors should not need trapping and that many run-time errors can be trapped by careful programming (eliminating divide-by-zero and so on), there remains a residue of possible errors which cannot be eliminated by the programmer, and when they occur it is vital that the user should not be thrown back into the operating system.

The NewBrain system, which I am very happy with, uses ON ERROR GOTO, ERRNO (the error number), ERRLIN (the line in which the error occurred), REPORT (giving the standard error message and throwing you into the operating system - only useful when debugging), and RESUME, which if followed by a line number re-starts at the line specified, or if not tries again at ERRLIN. ON ERROR GOTO 0 cancels error trapping.

To continue the same line of thought, there is a danger in paying too much attention to the wishes of computer enthusiasts (such as members of IQLUG). Mucking around with computers is only a means to an end; and the end is defined by the end-user. If the end-user is also an enthusiast, all well and good; but most of them aren't. So while it is an excellent idea to include facilities to make programming easier, this must not be at the expense of facilities which are essential for making programs usable. (As an aside, I suggest that while the prospect of Unix, the ideal programmer's operating system, is very exciting, Pick, the ideal end-user's operating system, would be still more valuable.)

Facilities for the programmer should also not be at the expense of the overall capabilities of the machine. Double precision arithmetic is not just for scientific applications. It is also needed for many business purposes. A business machine with only eight significant figures is just not credible. The ability to define commands at run-time is another example of a facility which, though less vital, will enable the QL to do things it would otherwise be unable to do - surely much more important than devising alternative ways of doing something it can do perfectly well already.

In addition to voting for the facilities I want, I have also listed the items which from my point of view would be a waste of the extra ROM space, since I either wouldn't use them or would be happy to do without, How or whether you want to deal with them statistically I don't know.

John Downie

Just for information, I found in the British 'Design Engineering April '84 that BICC-Vero has developed the PTC (pluggable telephone connector) for the RS-232C. The QL has four PCC sockets and the plugs can be difficult to find outside England. Phi Magnetronics has developed a nine track head for reading small tape loops (12 feet long) like Microdrives - 100K storage, 15 in./sec.

Gosta Cederin,
Kallerkroken 26,
S-22247,
Lund,
Sweden.

I've just received issue 8 of QUANTA - keep up the good work! I feel, however, that there are too many articles from people with the earlier machines complaining of poor keyboards, unreliable microdrives, etc. As everyone should be upgraded to 'JM' in the very near future I fail to see the point of continual griping. We should all be looking to the future of the machine and not continually reliving the past! For the record my 'AH' microdrives have been 100% reliable over the last 3 months and the keyboard would only be limiting were I a touch typist with 10 years experience.

I would also like to propose that as a group we petition the computer press for fairer reports in future. The way the machine has been reported since its launch has been deplorable. For instance, my first machine ('PM' - replaced, faulty) was delivered at the end of May together with a COMPLETE User Guide, but according to the press even as recent as the end of July, machines were being sent out without Manuals! I thought these people were in the know! The way Sinclair is reported is reminiscent of the way BL Cars used to be reported in the motoring press i.e. can't do anything right. This is probably induced by a subconscious jealousy of what Uncle Clive has achieved for normal people and that they as humble reporters can never aspire to such heights. An excellent example is the recent review in Personal Computer News which could have been better written by a 5 year old. It was so obviously biased and misinformed it was quite unbelievable for what I normally regard as a good magazine. I wrote and complained and they actually published my letter, albeit cutting the best bits and obviously having the final say.

I am also concerned at the current tenet held by some people and all the computer press that nothing short of a £4000 IBM etc. constitutes their idea of a computer. Having experience on the IBM PC XT and the DEC Rainbow 100 my opinion is that such machines are nothing short of a huge con. How can you justify c.£250 for the privilege of having colour graphics - the production cost of the board must be all of £10. I suppose that the people who buy these machines think that because they've paid so much money that their machines will be bombproof. How wrong! If you stray from the chosen path to 'find out what it'll do' these machines are as easy to crash as my 'PM' QL was.

Our friends at Camberley may not be perfect (who is, other than reporters?) but deserve better reports of their products. Let's face it, the sooner people stop dwelling on the events of last Spring the sooner the QL will take off and become the success it deserves to be. It is not perfect but then mainframes have off-days too and the QL has infinitely more potential than any machine in its price range.

As a user group it is in all our interests that the machine shoots to the fame that it deserves as quickly as possible. This will supply more members for the group and a software boom of Spectrum proportions. I therefore propose a general letter be sent on behalf of the group to any 'informed' publication unduly giving the QL a hard time, pointing out some of the facts of normal computer life.

John Lawlor,
35. Stonefield Drive,
Inverurie,
Aberdeenshire.

Given the apparent state of the documentation, plugging gaps in it is a most important function of the newsletter at the moment. Simple Points like the VER\$ function and how to halt a listing are especially important for those who have bought the QL as a tool rather than a toy.

But, for myself, I welcome the esoteric bits, so I include a discussion of Ackermann's function.

C.N. Howard.

68000 assembly language is really easy to work with. The technical manual on the Timex/Sinclair 2068 (US Spectrum) includes a Z80 listing for software sprites. A sprite is a user-defined graphic shape, capable of movement. I'm translating it to 68000 code in the hopes of developing a QL sprite program. I don't have a 68000 assembler so I won't be able to test and debug until the QL and assembler program are available in the US.

I am also toying with the idea of writing a disk operating system for the QL. Amylin has just come out with a 3.2 Mb (unformatted) disk drive. I'd sure like to use them with the QL.

I'm also thinking about a QL text to speech program using the Votrax SC01 or G.I. SP026-AL allophone speech chips.

Thanks for any help on the QL - hope we can buy them soon in the U.S.
Timothy J. McIlwee,
R.R. 2, Box 462A,
Dundee, IL 60118,
USA.

/* I too am thinking about interfacing a speech synthesiser chip to the QL. It shouldn't be very difficult. */

Some of IQLUG's members have mentioned the need for standards. (I hear the Spectrum has two 'standards' for joysticks depending on whose Games software you buy). Could IQLUG have any effect in determining a standard in conjunction with the software houses for Joysticks and cassettes?

Concerning the hardware side of things; if a manufacturer could be encouraged to produce a (neatly boxed) system bus, perhaps with an optional power supply, at an early stage, then other manufacturers may well feel it to be in their interests to make their units fit, so avoiding a spiders web across the desk. Every unit for the QL should have a male socket one end and a female the other with all the signals passed through. If something is produced which is incompatible with any existing product perhaps the details could be highlighted in Quanta as and when they are noticed by IQLUG members.

I hope you will not cater too exclusively for the 'whizz kids'. You may sometimes forget that technical information, on bus signals for example, needs a far more detailed explanation of what it can be used for. Another example is the article on PROLOG in Issue 3. For someone with no knowledge of the language Mr. Cameron's article was almost meaningless.

I have a handful of 64K RAM chips. So if anybody can come UP with a detailed circuit diagram I would like to have a go at building my own expansion memory.

I read that Sinclair has commissioned Prism to build a modem for the QL. In view of the cost of Microdrives cartridges and the inevitable number of different incompatible disk drives that will be interfaced to the QL, using telecomms will probably be the easiest method of transferring information and programs. Perhaps a list could be compiled of all members currently on Prestel. To start the list my Mailbox number is 014490036. I use a Spectrum for Prestel.

I have a 48K Sorcerer, disk controller and games for sale.

I hope I have made some constructive points. Keep up the good work!

Phill Biggs,
24 Ridgeway Avenue,
East Barnet.
Herts. EN4 8TW.
Tel: 01-449 0036

/* On opening up my QL I found that Sinclair use Texas Instruments RAMs. Because T.I. have different refresh requirements (256 cycles instead of 128) from everybody else, it might be best to use T.I. chips. */

It may be of interest to mention that on August 6th I wrote to Sinclair pointing out, among other things, that when I copied the line 'LET day\$= "FIRST" out of the User's Manual, it gave the message BAD NAME - though it accepted "days\$" or "dray\$". They answered on August 20th in what is clearly a standard letter, stating that 'regrettably we cannot offer immediate assistance', but that "we are at the present time offering to replace/repair, as applicable, any QL equipment which may be considered faulty." Since this is covered anyway by the 12 months guarantee, it is not much of a concession, and in practice it is a neat dodge to challenge you to go to the expense of returning your machine if you want to take the matter any further.

Something you might usefully cover in the newsletter is the question of printers and monitors. The monitor brought out by Microvitec does indeed look a very attractive machine, but there must be many people who, like myself, are squeezing each item of equipment painfully out of the running budget, and who are thus making do with their TV for the time being. The Systems 4 printer advertised as being specifically for the QL (no price given) is described as battery-powered, which seems an invitation to beggar yourself in the long run. On the other hand, my enquiries at three computer shops in Glasgow have run into the difficulty that the QL uses the serial, not the parallel, interface. This was most striking at W. H. Smith's. who were eagerly looking forward to getting their first supplies for direct sale later this month, and yet had no printers that would work with them! And those shops that assure you that you can get an adaptor for a mere £50 or so are a nasty reminder that, when you buy cheap, you pay more in the long run.

David Jago.

/* It is advisable not to have anything to do with guarantees. You have more protection under the Sale of Goods Act. Members should be able to claim back their postage costs from Sinclair when returning machines that are faulty. Has anyone done this?)*/

Dear Rob,

First I must thank you most sincerely for your kind assistance a few Sundays ago when I was at my wits ends trying to hook up the QL and FX80. Referring to my copy of Quanta I contacted Brian Pain who in turn put me in contact with yourself. I had begun to think that all the adverse publicity about the QL was true, although on reflection a lot of the problems were of my own making. When all else fails, read the instructions! Of course, I would do so if only I didn't have to read the entire edition every time I want to query something instead of looking it up in an

index.

David Peacock.
370/2 Hish Street North,
Manor Park.
London E12 6PH.

/* We now have a nucleus of members who, like Rob, are willing to assist other members. Give Brian Pain a ring if you are having problems, and he will put you in touch with someone who can help. */

I noticed in Volume 1 Issue 5 a letter from JR Downie on Newbrain - QL links. You may be interested that the independent Newbrain User Group has conducted tests on both ports of a 'ROM pack' QL. Results were all negative after a solid 18 hours of trials to get any configuration at any speed to work. The conclusion was that the sample QL was not to the full specification. You may be amused that the purpose was to use the QL as an add-on to one or more Newbrains. Multi-tasking, if it had been supported by QL BASIC, was going to be the attraction, not Microdrives.

Anthony D Hodge.
INGROUP,
15 St. Johns Court,
Wakefield WF1 2RY.

I have found the Psion help service most efficient with written replies coming in 48 hours and telephone contact in 24. The latter is wasted on me as I can neither hear nor think quickly enough on the phone. I am waiting for a reply at the moment.

Peter Warner,
10 Rosewarne Court,
Hyde Street,
Winchester. SO23 7HL.

/* Peter is the first member who has had anything good to say about OLUB! Have any other members been pleased by Psion's response to queries? */

68K/OS

GST have sent me an evaluation copy of their 68K/OS operating system for the QL. It came on a couple of 27128 EPROMS. which I had to plug in in place of Sinclair's ROMs. I also had to modify a couple of internal links and insert a 74LS00 chip in an empty socket. The mods took about 10 minutes. I invalidated my warranty, of course! 68K/OS is I feel, a much more powerful OS than QDOS, but not so suitable, in my opinion, for the typical QL user, as it is rather more difficult to use, and at present there is no BASIC and no packages like those supplied with the QL (the Psion programs do not run under 68K/OS). I did not have time to try the assembler that comes with 68K/OS, but the text editor is SUPERB! It is in fact nearly a full-blown word-processor and makes Quill look as if it was written by an amateur. Actually, Quill was written by an amateur, since whoever wrote it obviously knows nothing at all about writing text processing software! 68K/OS will shortly be available for just under £100 on a module that plugs into the expansion port and allows the user to switch between QDOS and 68K/OS at will. I'll provide a fuller report on it in the next issue.

Leon Heller

PROBLEM SECTION

Can anyone tell me how to print an Easel Microdrive dump on the Brother HR-5 printer?

Dr. Basil Lee,
31 Fairdale Gardens,
London SW15 6JW.

/* This is covered elsewhere in this issue. */

I tried to write a program which would give listings with a minimum of key presses. Briefly:-

```
1 DEF PROC L
2 INPUT A$;B$
3 IF A$=" " AND B$=" " THEN LIST
4 IF A$<>" " AND B$<>" " THEN LIST A$ TO
5 IF A$=" " AND B$<>" " THEN LIST TO B$
6 IF A$<>" " AND B$<>" " THEN LIST A$ TO B$
7 IF A$<>" " AND A$=B$ THEN LIST A$
8 END DEF
```

At line 2 input line numbers as A\$ or B\$ " " is achieved by simply pressing <ENTER>. Lines 3, 4 and 5 work as desired, but in the case of lines 6 and 7 listing always continues until the end of the program.

Has anyone got any ideas?

David Guthrie,
2 Hillside Drive,
Stranmillis,
Belfast. BT9 5EJ.

Has anyone managed to get a Tandy Model I green screen monitor working properly with a QL? Mine seems to lock onto the wrong part of the video signal.

Leon Heller.

Do you know how to create and use random access files from SuperBASIC?

Sean Kneller,
34 Beehive Lane,
Basildon,
Essex. SS14 2LG.

/* Although QDOS supports random access files, if I am reading the documentation correctly, this feature is not available from BASIC. It should be possible to write some machine code which would add random access to BASIC, and this should be available before long. Anyone want to have a go? */

With reference to QUANTA Volume 1 Issue 8.

Editing & Auto By B. M. McAlister - The author has found one of the ways of editing Basic programs on the QL. The method I have found is as follows. List the first screen full of the area to be edited then enter EDIT followed by the line number. Make the changes to each line using the line editing of the QL. At the end of the Changes to the Line instead of entering <ENTER> use the Cursor Up and Cursor Down Keys to move to previous or next line. The changed line will appear on the List screen. Should the Cursor up or Cursor Down go beyond the listing screen then the screen also scroll up and down. The cursor up and cursor down keys may be used at any point instead of the enter key.

QL Multi-Tasking and QL User Defined Graphics By Derek. V. Wilson - The Multi-Taking program is a copy of that which appears in later copies of the QL Manuals (Without the Errors in the Manual). Both these programs are presented as Basic programs loading machine code. I would suggest that authors who wish to submit any article concerning machine code should present the program in assembler mnemonics. See Supplied example.

The RESPR function reserves space which cannot be released within Basic. The repeated use of the UDG function described will waste the QL memory. The RESPR function allocates in blocks of memory not in the required amount. To find the bottom of the area Space=RESPR(0) can be used. The user cannot reset the UDG back to the original characters defined, though this is available via the same TRAP call used to set the UDG.

With reference to QUANTA Vol. 1 Issue 7.

Machine Code Interface to Basic Norman. A. Macleod - The required function for passing values back to Basic variables does exist when using assembler. The CALL is not used to enter the assembler code but to set up assembler Named functions and Procedures (As used in The Example supplied). The requirement for a function to find the address of variables is not required by the assembler the suggested routine would be used as MOVERS A,B,N.

Crashing Archive and Abacus - Enter a string of 26 or so -'s for a cell value will cause Abacus to crash. In Archive let a=('s again around 26 will crash it. Quill loses the odd piece of text here and there, sometimes going up and down the text it may reappear.

Anon.

In reply to an enquiry as to the location of graphics symbols for arrows, they are chr\$(188 to 191). I enclose a screen dump of the graphics set on my PM ver\$. Presumably 192-255, currently unspecified, could be used for user defined graphics, a sorry omission from the basic. Anybody know how?

GR Taylor.

32	33 !	34 -	35 *	36 \$	37 %	38 &	39 ' 40 (
41)	42 *	43 +	44 ,	45 —	46 .	47 /	48 0
49 1	50 2	51 3	52 4	53 5	54 6	55 7	56 8
57 9	58 :	59 ;	60 <	61 =	62 >	63 ?	64 @
65 A	66 B	67 C	68 D	69 E	70 F	71 G	72 H
73 I	74 J	75 K	76 L	77 M	78 N	79 O	80 P
81 Q	82 R	83 S	84 T	85 U	86 V	87 W	88 X
89 Y	90 Z	91 [92 \	93]	94 ^	95 _	96 £
97 a	98 b	99 c	100 d	101 e	102 f	103 g	104 h
105 I	106 j	107 k	108 l	109m	110 n	111 o	112 p
113 q	114 r	115 s	116 t	117 u	118 v	119 w	120 x
121 y	122 z	123 {	124	125 }	126 ~	127 @	128 ä
129 å	130 å	131 é	132 ö	133 õ	134 ø	135 ü	136 ç
137 ñ	138 æ	139 œ	140 á	141 à	142 â	143 ë	144 è
145 ê	146 ï	147 í	148 ì	149 î	150 ó	151 ò	152 ô
153 ú	154 û	155 û	156 ß	157 ç	158 ¥	159 `	160 Ä
161 Å	162 Å	163 É	164 Ö	165 Ö	166 Ø	167 ù	168 Ç
169 Ñ	170 Æ	171 Œ	172 α	173 õ	174 ø	175 λ	176 μ
177 π	178 φ	179 ι	180 ¿	181 ¢	182 §	183 ¢	184 «
185 »	186 °	187 ÷	188 ←	189 →	190 ↑	191 ↓	

Following publication of my last letter in the Quanta Newsletter, you may like to know I seem to have solved my problems with getting a daisy wheel printer compatible with both the QL and the Macintosh.

I bought a Brother HR15, and with the aid of Brother's Technical Sales people, who were extremely helpful, it now works beautifully on the QL, and I am told by Apple that a software driver is imminent for the Mac.

The installation codes for Install_bas for the HP 15 are as follows:-

Driver Name	HR15
Parity	Even
Baud Rate	9600
Lines/Page	66 (or other)
Characters/Line	80 (or other)
Continuous Forms	No
End of Line Code	(CR),(LF)
End of Page Code	(FF)
Preamble Code	(ESC),(CR).P
Postamble Code	None
Emphasize On	(ESC),W
Emphasize Off	(ESC),&
Underline On	(ESC),E
Underline Off	(ESC),R
Subscript On	(ESC),U
Subscript Off	(ESC),D
Superscript On	(ESC),D
Superscript Off	(ESC),U
Translate 1	\$60,\$23 (E to #)
Translate 2	None

This will give most of the functions of the HR 15, except vertical tabbing and other rather special items for which the QL driver does not provide. Unfortunately, the Brother will not automatically underline spaces, but I guess you can type an underline character where required.

The Sinclair cable also requires modification, as follows:-

Sinclair Cable		25 way D Connector
Black wire	to	Pin 1
White	to	Pin 2 (as is)
Green	to	Pin 3 (as is)
Blue	to	Pin 20
Red	to	Pin 5 (as is)
Orange		Not used
		Link Pins 4,6, and 8

This assumes everyone has the same colour codes in their printer leads. If not, the wiring is in sequence from pins 1 to 6 on the Sinclair British Telecom plug, and since the cable is flat, you can trace the wires without dismantling the plug.

This works from Ser 1 socket on the QL.

My QL, contrary to the indications in the manual, will not accept Install_bas codes in plain language, but only in hex. However, hex codes are available in the manuals for the QL and the HR 15.

The Brother's standard dip switches can be left as is, except for baud rate, which comes as 300, and must be reset to 9600, following the instructions in the manual.

It is extraordinary that the settings required are quite different to what would be expected from reading the manuals for the QL and the HR 15, and I would never have been able to make it work without Brother's help.

Brother also say the machine can be used in typewriter mode in Superbasic by resetting the HR 15 dip switches to 8 bit no parity, but I have not tried this, as my QL has gone back to Sinclair for upgrading. (This letter was done on the Macintosh and Imagewriter) It would be necessary to type Open #3,ser 1 and follow with the usual Basic string printing program.

It is also interesting to discover that the Apple Imagewriter will print from Quill and Abacus, using the unaltered cable, and with the default settings in Install_bas, but only in standard mode. Unfortunately, I was not so lucky the other way, as the Mac will not run the HR 15 without additional software.

All round, I am very happy with the HR 15. At £339 including serial card, it is cheaper than a comparable typewriter. and although at 13 cps it is not fast, it rattles out all my letters, labels and envelopes with no fuss at all.

On more general matters. I get the impression that people are only too willing to complain about the QL on what seem to me to be unreasonable grounds. The microdrives, for instance, are at least as fast as the Sony 3 1/2" discs on our Macintosh. and you can usually continue to use the keyboard even while disc access is going on, which you certainly cannot do with the Mac. Again, the Mac insists on saving everything before printing even if it is already saved, and pauses for as much as ten seconds several times in the middle of long letters while it refills its buffer. By contrast, the QL bashes out the print as soon as asked, and continues non-stop to the finish. It is also a lot quieter than the Mac, which groans and whines all the time it is using its discs, which it does at the drop of a hat.

The QL keyboard too. while not as good as the near-perfect Macintosh, is a lot better than many typewriter keyboards I have used, even when the typewriter cost rather more than the QL. I must stop using the control key as a shift key, however, as this produces some surprising results sometimes. I suspect the real problem is that many users of QL's or other cheap computers have had no experience of typing before, nor indeed of other computers. and they don't know how bad they can be!

One last comment. The Mac has a white screen. with black print, like the ZX81, and this is so much easier to read - just like normal typing on paper - that I cannot for the life of me understand why so many computers use white on black. I suppose it consumes more memory if most of the pixels have to be lit all the time, but it is well worth it. After all, no-one prints books. or indeed anything else, in white on black unless striving for some special effect, so why do it with computers?

D.R. Kelsey,
DRK Products Ltd,
Bar One,
Pipers Lane,
Caddington Common,
Nr. Markyate,
Herts. AL3 8QF.

/* There is a very Good reason why most computers use white on black. With low-cost systems, the video refresh rate is usually 50 Hz in the UK. Screen flicker is much more noticeable with large areas of white (I won't go into the physiological reasons for this), so up-market machines like the Mac use a refresh rate of about 125 Hz. to avoid flicker with black on white displays. This adds quite a lot to the cost, therefore 'el cheapo' machines like the QL stick to white on black. You could always get the Mac type of screen on the QL (at least from BASIC) by a bit of programming. but I don't think you'll like it. */

Her are a few comments on some problems that have affected my QL computing so far.

POWER SUPPLY: very noisy, whether or not the QL is connected.

FORMAT does not always succeed, and I found that propping the cartridge to one side (when in mdv1) helped. I seem to get better sector definition on mdv2 than on mdv1, by as much as eight sectors. I have had Clone failures on QUILL, and cannot re-FORMAT the cartridges. Is there some write protection provided by Quill, which defeats FORMAT? I shall check if this is related to Melvyn Pearce's comments in QUANTA No. 8, about FORMAT appearing to be drive-specific.

CARTRIDGE/DRIVE RELIABILITY: mdv1 started to make abnormal noise levels, which could have been either drive or cartridge problems. I am now sure that cartridge faults develop before much running time has been built up. The results have included failure to read programs, either in BASIC or when using the Psion programs. DIR yields 'not found' in BASIC, and Quill gives error messages like 'can't open file in mdv2'. Further attempts to load from these noisy cartridges are occasionally successful, but unreliably.

Quill has also entered a continuous run of mdv2 with a cartridge it could not read. This is an unstoppable condition, and removal of the offending cartridge provokes an automatic RESET, again with aggravation. Is there a cure?

When Quill cannot open a file in mdv2, 'Press any key to continue' loops back to the error message. The alternative of 'Press ESC to return to BASIC' becomes the only way out.

LOCK-UP: I have had a couple of lock-ups in QUILL, solved only by resorting to RESET, as no keys would yield any response. This varies from slightly to very annoying, and is certainly an unacceptable feature. I must try the double-F2 trick next time.

I hope my layout will allow you the luxury of using this without retyping. I use an Epson RX-80 F/T, which has been fine since the suppliers cured its failure to print £

(pound) signs. This had been caused by their erroneous resetting of a DIP switch on the main board. It could not be seen, because the serial interface board covers that part of its anatomy.

I have yet to go into colour, and would like to know if there is likely to be (or is) a medium/high resolution monitor that will also take video signals, and copes with 85 chars/line.

Robin R. Smith,
60, Hammersmith Road,
Aberdeen. AB1 6ND.
Tel. (0224) 322173.

Has anyone got the integer power instruction of SuperBASIC '^' and the use of brackets to insert a variable into an input prompt to work yet? I have tried all ways and cannot set either to show a glimmer of working.

Thank you for your time and a most useful newsletter.

Anthony C. Haddock,
14 Portia Close,
Whitestone,
Nuneaton,
CV11 6NY.

How can I implement a 'CR' (carriage return) on a listing to an Olivetti DY211 printer?

Currently it is Printing:-
100 xxxx
 200 xxxx
 300 xxxx

I wish it to Print:-

100 xxxx
200 xxxx
300 xxxx

Giles Powell,
53 Richford Street,
London W6.

At the moment a problem has arisen since the QL went in for its operation 'insert'. The printer is a Juki 6100 and Quill and Abacus worked fine before, but now the OL will only work if the serial port is set to ignore handshaking. This is fine, but there is nothing I can find to set this parameter within the Install-Bas routine. I imagine others have had similar problems and would be grateful if someone could advise me of the fix.

p.s. any news of a comms. package. I have a modem.

Terence P. Burton,
2 Thrifts Mead,
Theydon Bois,
Essex.

/* A simple comms. program, in BASIC. is in this issue. */

If anyone has Managed to print from Easel to an OKI Microline 84 (no problem with Quill and Abacus) I'd be interested to know how they did it! All I get is hundreds of "@" figures!

P.A. Holcroft,
'Hillcroft',
Basingstoke Road,
Headley,
Near Newbury,
Berks. RG15 8LA.

/* The "@" symbols indicate that the printer cannot make sense of the codes it is getting from the QL. Have you tried contacting Psion? */

Thank you for Vol.1 Nos. 7 and 8 of QUANTA. Each issues contains a considerable amount of interesting and useful information. Please keep up the good work.

I have some comments on questions raised by correspondents to QUANTA.

(1) Vol. 1 No. 6. Mr. Cowhig. The problem with the printer's not understanding spaces is one shared by the Brother HP15 (but not the HP5!!) One solution is th use the underline character instead or spaces, thus:

<underline-on>This_is_an_Underlined Title,<underline-off>

which should print as This is an Underlined Title

(2) Vol. 1 No. 7. Mr. Cuming. The RGB output from the QL is exactly as "standard" as that of the BBC. I have used the QL with excellent results on a Microvitec CUB medium-resolution monitor normally used with the BBC. The only problem was the pin connections incorrectly listed in the manual. (see No. 7. p.18). I believe that the CUB model 1451/DQ3 is special to the QL only in the colour of its case and possibly in reduced scan width to allow 85-character lines to be seen.

(3) Vol. 1 No. 7. Mr. Hook. To make the best use of a database such as ARCHIVE, it is necessary to customise it for each application. This means programming the required functions in the special version of BASIC. I think it would be rather difficult to do this via a menu-driven system.

(4) Vol. 1 No. 7. D.R. Kelsey. The line number associated with the "Bad Medium" message is that of the line 10 the BASIC program "boot" which uses LBYTES to load the machine-code part or the Psion package (called START). It doesn't matter whether the dud sector is in 'START' or in the files subsequently loaded by 'START'; the BASIC pointers are still pointing at line 210.

To use QUILL to edit BASIC programs, it is necessary first to SAVE the BASIC program to a file, as usual. It is not necessary to PRINT the program to a file, but the filename used must have an extension (e.g. '_bas') otherwise QUILL will add '_exp'. This file can be read by QUILL using the FILES IMPORT function, then edited. When editing is finished, the file can be SAVED as a QUILL text file for subsequent editing; it can be returned to BASIC by using the QUILL PRINT function with the FILE option. The dummy printer driver described by Mr. Wilson (Vol. 1 No. 8 p. 17) must be used to prevent a header being appended to the file and to make sure that each line finishes with LF instead of CR LF. In addition the Display command must be used to set the page length to zero.

I have had my QL for about 7 weeks now, and I both love and hate it. The application software is very good except for the slowness of QUILL. Perhaps the update supposedly available this Autumn will cure the very slow behaviour in saving and loading text files. For example, this file contains about 730 words and takes about 1 min 45 secs to save!

For machine-code and assembly-language programmers, I highly recommend - "The QL Advanced User Guide" by Adrian Dickens (Adder Publications, £12.95). It is a very full coverage of all the facilities of QDOS. I bought a copy yesterday at the PCW show, and sat up half the night reading it.

Here is a tip for users of the Brother HR5 printer. The printer driver GPRINT_PRT in the EASEL package is customised for the Epson FX80 with a change of one byte, It also works with the HR5. The following BASIC program will modify GPRINT_PRT, making a backup copy of the original version for security (note that RESPR () will only work if NO JOBS have been loaded into the transient program area by EXEC) :-

```
100 REMark *****
110 REMark *   Program to modify GPRINT_PRT   *
120 REMark *   for Brother HR5 printer 1984-Sep-16 *
130 REMark *****
140 REMark
150 CLS
160 INPUT "Put EASEL cartridge in mdv2_, press ENTER";z$
170 COPY mdv2_GPRINT_PRT TO mdv2_GPRINT_BAK
180 c=RESPR(300)
190 LBYTES mdv2_GPRINT_PRT, c
200 POKE c+194, 4
210 DELETE mdv2_GPRINT_PRT
220 SBYTES mdv2_GPRINT_PRT, c, 290
```

Another useful tip is that GPRINT_PRT can also be used within your own BASIC program to do a screen dump. Copy GPRINT_PRT to the cartridge containing your BASIC program. Within the program, load GPRINT_PRT into memory, thus:-

```
1000 screen_dump = RESPR(1300)
1010LBYTES mdv1_GPRINT_PRT, screen_dump
```

Then the screen can be dumped to the printer by using

2000 CALL screen_dump

This will print the screen graphics between addresses 020204A and 027803A inclusive.

Frank Burgum
62 Caithness Road,
Mitcham,
Surrey
CRA 2EU

A lot of questions in Quanta are left unanswered. Should one write to Quanta or the individual if one has a solution? If technical queries were stored and repeated each week until an answer was received and then printed alongside the answer then I for one would know if there was some poor sod tearing his hair out waiting for an answer.

The UDG Question is one that I have read an answer to... Popular Computer Weekly Vol. 3 No. 36 has an article by Ian Logan which explains how the QL stores its character set and how to change it. It worked after I keyed the procedure in but I'm still trying to work out why!

I'm not sure of the legal side of things but would it not be a good idea for someone to buy a magazine and then pass onto Quanta for the QL tit-bits and therefore save everyone else the expense of buying all the magazines and so not to miss anything important.

This is my first micro although I have been an RPG programmer for 10 years. and I must say I'm enjoying it immensely!

Steve Hawker,
11 Church Road,
Ferndown,
Dorset BH22 9EU.

/* Ideally, if responding to a query published in Quanta, I would prefer members to first write or phone the individual concerned and also send me their solution for inclusion in the newsletter. Alternatively, the person helped could write in with the solution and a 'thank you' for the helper, which would tend to reinforce the altruistic behaviour of other members.

I just do not have the space to publish the same queries every issue until they are answered. I'm afraid.

Rob Sherratt, our librarian, is writing to magazines publishing programs for the QL, to ask if the programs could be included in the IQLUG library. Hints and tips could be republished in Quanta, provided they are re-worded to avoid any copyright problems. */

I am using a Brother EP-22 printer, which has been connected via the SER1 Port of the QL using the lead supplied by Sinclair. This appears to be working satisfactorily, however, a reply from Psion to one of my enquiries said that I would have to make up a cable with the following pin connections:-

QL	Brother
1	1
2	2
3	3
4	20
5	5

Pins 4, 6 and 8 of the Brother connector should be joined together.

It does not appear to be possible to use subscript and superscript or to print the copyright symbol. Can anyone help?

WDG Oliver,
14 Scaurbank Road,
St. Ann's Hill,
Carlisle,
Cumbria.

Please publish where we can find those silly little connectors for the SER and CTL sockets.

When the microdrives won't stop because of some problem, what is the best thing to do?

How can you load a program with a corrupted file name (Error message: 'bad name')? How can you 'look' into the program on the tape or load it with this bad name?

R. Betz,
Club Micro-Europe,
Club Micro_QL,
38 Chemin du Moulin,
1328 Ohain,
Belgium.

/* See my piece about the Timedata connectors in this issue.

The safest way to deal with Microdrives that won't stop is just to pull out the cartridges, in my °opinion. It will then be safe to reset the machine. You might lose the file, however.

'Repairing' a corrupted file might be feasible, since we have been doing it for years with TRS-80s and corrupted disk files. A special utility would be required. */

LOW-COST COLOUR MONITORS

Thank you for the introductory copies of Quanta. It sure beats Sinclair's first issue of the QLUB newsletter.

In order to enjoy the included software to its fullest, one needs a good 80 column colour monitor. I found a good cheap alternative for those of us who are not prepared to convert our colour TVs.

For any other readers interested you can obtain a colour monitor which is a converted colour TV (ex rental 20") from:-

Microthorn Ltd.,
71 Kemps Green Road,
Balsall Common,
Coventry CV7 7QF.

The price is £124 including lead, delivery and VAT. The one I received after some adjustments produces a perfect picture and while the 20" screen is somewhat large, it makes using Quill and Abacus somewhat larger than life. The people running the company are very interested in customer satisfaction and are most helpful if you should have any problems.

I hope this small contribution may be of some help to those considering the problem of purchasing a colour monitor but who find the prices a bit steep.

Steve Creed,
181 Whitby Road,
Ruislip,
Middx. HA4 9E8.

BOOK REVIEW - INTRODUCING THE SINCLAIR QL, BY GARRY MARSHALL

Hutchinson recently sent me the above book for review.

Don't bother!!!

If anyone would like to give a second opinion on this book, please give me a ring; it is taking up valuable shelf space!

Leon Heller

MICROVITEC CUB 653 1451/DQ3 MONITOR

At the recent PCW show, Microvitec very kindly loaned me one of their CUB monitors for the QL, and we had it on our stand for the duration of the show (some five days).

The quality of image produced by the monitor was excellent, and it performed in an exemplary fashion throughout the show. They are painted black to match the QL.

They are supplied complete with a lead ready to plug into the QL, and all you have to do is fit a mains plug.

The monitor costs £275, and represents good value for money, in my opinion. It might not work properly with other computers, a point you should bear in mind if you are considering purchasing one. Microvitec can be contacted on (0274) 390011.

Leon Heller

WHEN IS IT SAFE TO RESET?

It appears to be quite safe to reset your QL with Microdrive cartridges in place, provided the drives are not operational (indicated by the red light). I have been doing this since I got my QL with no problems. Resetting with the red light on does corrupt files, however, as does switching the power on and off with cartridges in place, even if the drives are not operating.

Leon Heller.

CASSETTE INTERFACE FOR QL

I read with horror that you feel 1200 bits/sec may be an adequate and acceptable speed for the proposed cassette interface. My own view is that 9600 bits/sec is likely to be barely enough! Since this discrepancy is almost an order of magnitude, perhaps I should elaborate.

SuperBASIC is a RAM-hungry gobbler. I reckon that a QL program written in SBASIC needs at least 3 times the RAM which Spectrum BASIC uses, to deliver the same function. This implies that 96k is not enough, and that most serious users will add a RAM upgrade. The 512K upgrade is going to offer better value for money than the 128K upgrade. Our cassette interface should therefore cater for users with 608K of user RAM.

The Spectrum, which has about 40K of user RAM, has a loading time which is only just acceptable, at 1500 bits/sec. (Remember the screams of anguish from ZX81 users, who twiddled whilst their 16K monstrosities loaded at 300 bits/sec.)

Our 608K QL, at 9600 bits/sec, will therefore take nearly two and a half times the Spectrum loading time, to load fifteen times the the code, and deliver five times the function.

You may think my figures are way out, and they may be, for your activity patterns. However I would balk at any cassette interface of less than 4800 bits/sec.

Peter Morley,
3 North Drive,
High Legh,
Near Knutsford,
CHESHIRE
WA16 6LX

QL AT ZX MICROFAIR

In a careless moment of euphoria, it's all too easy for a QL owner to begin to think of the Spectrum as sinking into decline. Nothing of the kind! A visit to the ZX Microfair at Alexandra Palace on Saturday, September 8th, soon shows this judgement is premature. Some of the old familiar brand names may be missing, but the Spectrum is still way ahead. So what is there for the QL aficionado?

Let's start with some compulsive software. Messrs Tose & Shergold of Spectrascan have produced three games: Golf, Othello and 3D Maze retailing on microdrive cartridges at £12 each (£10 at the fair) with reductions for any two or all three together. The 3D Maze is a colourful version of an old favourite with a spoonful of adventuring stirred in; and the QL plays a pretty mean game of Othello. Beats me hollow at level 1. Full marks for initiative. While some exhibitors say there is no QL software to be had, these two are out selling it.

Transform Business Software has a very handy microdrive cartridge storage box with ten slots. Very good value at £5.95.

And, of course, the Miracle Systems QL Centronics Interface is a must for anyone with a QL and a Centronics printer. One end of the cable goes into the back of the QL, the other into the back of the printer - and, hey presto, you're in business. Well, with one or two little adjustments, that is. When I use my Star 510

to print out listings, I need to have DIP switches 2 and 3 in the Off position. When I work with Quill, DIP switch 2 has to go back On again. I hope the little itty-bitty switches stand up to it! Incidentally, Miracle Systems Limited are now at Unit 37a, Avondale Workshops, Woodland Way, Kingswood, Bristol BS15 QL - what a wonderful coincidence!). Phone is (0272) 603871. Their interface was £39.95 over the counter at the Fair.

While there still isn't much in the way of other peripherals for the QL yet, the book publishers are getting into full swing. Best of the bunch at the Fair is Tim Hartnell's "QL Games Compendium" with a bit of everything for everyone: adventure, AI, simulations, action games and board games. At £5.95 this deserves to be on every hacker's shelf.

The best of the rest are Lionel Fleetwood's 'Sinclair QL User Guide" from Sigma and Alison McCallum-Varey on "Quill, Easel. Archive & Abacus" in the Sunshine series. Fleetwood writes in a chatty informative style, though some of his directions seem to depend on commands that don't seem to have been implemented on any QL I have used. McCallum-Varey gives some good examples but here, too, the intelligent user needs to edit and experiment to find out what works on their particular QL.

Some of the other books now available seem to me little more than inspired re-writes of the Urtex QL Manual, or parts of it, and one or two don't even get that far. So there's still room for improvement...

Talking of which... I had intended to tell you about D09-019040 which arrived in the Cameron workspace on September 3rd. It's my 3rd QL (see QUANTA 1.6) and I really began to enjoy this JM version when it was hooked up to a Microvitec 653 CUB monitor in the early hours of Sunday morning. (A great monitor this. The Fair gave me the chance of seeing just what monitors can do. A TV set just isn't in the same class. But I don't need to tell you that.) Alas, 24 hours later it was clear that something is wrong in the microdrive area. Mdv1 is excessively noisy and the cartridge vibrates in the slot when the motor is running. Mdv2 now refuses to load anything. It sulks and accuses me of using "bad or changed medium". Sometimes it won't even respond to DIR. So there we are. It's another trip to the Post Office for me and another couple of weeks using good old reliable Tasword Two on the Spectrum. Hey ho!

FRANCIS CAMERON,
12 Norreys Avenue,
OXFORD. OX1 4SS

A FORTH 68000 CROSS-ASSEMBLER

Thanks for the information about QDOS given over the 'Phone. I managed to Print a '*' but have not yet tried to input.

I enclose the FORTH code and resulting hex dump for the '*' screen print. You expressed some interest in how I was assembling 68K code, so here goes!

Dr. Dobbs Journal Sept. 83 (the annual FORTH issue) contains a 68000 FORTH assembler written by Michael A. Perry. All I have done is to adapt it into a cross-assembler, running on my 6502 system.

(Print a star adapted from L Heller)

```
5 D0 QMOVE    (QDOS send to screen)
2A D1 QMOVE    (put byte in D1)
-1 D3 QMOVE    (time out in D3)
```

1 1 £ A0 LONG MOVE (channel in hi lo word)
3 TRAP (I/O TRAP)
D0 8000 2 L£) MOVE (save error code)
0 D0 QMOVE (prepare to return)
RTS (to BASIC)

Ken Price,
298 Longstone Road,
Iver Heath,
Bucks. SL0 0RN.

SUB-GROUPS

The following members have volunteered to act as contacts for local sub-Groups. Initially, while the Groups are small, it would probably be best to meet in someone's home, or at a local computer club. You might find, as have many of the NATGUG local Groups, that you will need to hire your own premises, eventually.

Oxford

Roger MacNichol.
(0865) 242701

East Coast

Steve Nicholls,
(0502) 515881

London

Ashok Soni,
01-472 9966

Edinburgh

Ted Gladstone,
031-661 4558

Bristol

J.A. Tanner,
(0272) 623401

Birmingham

Malcolm Newport,
(0922) 22725

North Wales

Dilwyn Jones,
4 The Crescent,
Bangor,
Glywynedd LL57 2AA
(0248) 354023

Billericay

S.A. Rouse,
11 Trafalger Way.
Essex.
(02774) 53541

West London

West London Personal
Computer Club,
Neil Cryer,
01-997 9437

Croydon

Donald Forbes,
35 Upland Road,
South Croydon,
Surrey CR6 2RE.
01-688 5794

Milton Keynes

Brian Pain,
24 Oxford Street,
Stony Stratford,
Milton Keynes,
MK11 1JU.
(0908) 564271

Basildon

Sean Kheller,
34 Beehive Lane,
Basildon,
Essex SS14 2LG.
(0268) 21412

PCW SHOW

Due to the good offices of the Association of Computer Clubs, we had a stand at the PCW show, which was held at Olympia. Thanks to Donald Forbes and Microvitec, we had a QL and monitor on the stand. Perhaps because the club stands were well hidden and no-one knew we were there, the response was a little disappointing, with about 100 new members Joining the Group. We had hoped for at least 200. It was very nice to meet those of you that managed to find us. My thanks to Donald Forbes, Rob Sherratt, Ashok Soni, Sid Day, Mike Finley and CT Fernandez for helping to man the stand.

Leon Heller

ACKERMANN'S FUNCTION

$$\begin{aligned}
A(0,n) &= n+1 \\
A(m,0) &= A(m-1,1) \\
A(m,n) &= A(m-1,A(m,n-1))
\end{aligned}$$

Consider $A(1,n) = A(0,A(1,n-1))$
 $= 1+A(1,n-1)$

We find $A(1,n) = n+2$

Next $A(2,n) = A(1,A(2,n-1))$
 $= A(2,n-1)+2$

and can deduce that $A(2,n) = 3+2*n$

Also $A(3,n) = 2^{(n.+3)} - 3$

because $A(3,n) = A(2,A(3,n-1))$
 $= 3+2*(A(3,n-1))$

Now consider $A(4,n)$

$$\begin{aligned}
A(4,0) &= A(3,1) &= 13 \\
A(4,1) &= A(3,A(4,0)) &= A(3,13) \\
&= 65533 \\
A(4,2) &= A(3,A(4,1)) \\
&= A(3,65533) = (2^{65533})-3
\end{aligned}$$

This Means that lack of stack space is not the only problem when trying to calculate Ackermann's function for non-trivial values of m,n. This underlines the sad fact that recursion is elegant for mathematical definitions but elegance and effective computing are often not the same thing.

G.N. Howard.

PSION SOFTWARE UPGRADE SHOCK HORROR

Bill Nicholls, Sinclair's Public Relations Manager (an impossible Job, I'd have thought) has stated in a recent letter to Popular Computing Weekly that only QLUB members will set free upgrades to the Psion Packages. Since, in my opinion, and that of other members, the bugs in Quill and limitations of Abacus mean that the programs are unsuitable for sensible business applications, members who do not belong to QLUB should return their QLs to Sinclair, or the retail outlet where they purchased them, when the upgraded software starts being shipped with machines, for a full refund under the Sale of Goods Act. on the grounds that the system is not of merchantable quality (due

to the software deficiencies). You will then be able to buy a brand new system with the upgraded software. without being forced to join QLUB.

I have sent a letter to Sarah Johns. Sinclair Customer Relations Manager, with a COPY to Dr. Searle, informing them of the above recommendation. It will be interesting to receive their response. if any.

Leon Heller

BEGINNERS SECTION

In order to get the beginners' section going, here are a couple of little items that might prove useful.

You might want to read a file on a byte by byte basis, in order to convert all the characters to upper- or lower-case. for instance, or to count the number of words. Here is one way to do it:-

```
10 CLS
20 INPUT 'File name? ';fname$
30 OPEN_IN #5,fname$
40 REPEAT get_byte
50 IF EOF(#5) THEN EXIT get_byte
60 byte=CODE(INKEY$(#5,-1))
70 PRINT CHR$(byte)
80 END REPEAT get-byte
90 CLOSE #5
```

If you are developing a program, you can save a lot of time by placing the following procedures at the end:-

```
1000 PROCEDURE DEFine 1
1010 cls:list
1020:
1030 PROCEDURE DEFine s
1040 DELETE mdv1_test_bas:SAVE mdv1_test_bas
```

The first procedure enables you to clear the screen and list the program simply by typing '1'.

The second procedure is also very useful. If you always call the current program you are working on, as I tend to do, "test_bas", then just typing 's' every now and again will ensure that the latest version is saved. Try modifying the procedure so that two versions are always available: the current one and the previous one.

Note the use of a colon by itself to separate different pieces of code. You can use REMark, but it doesn't stand out like a colon. which appears like a blank line.

Leon Heller

TIMEDATA SERIAL AND CONTROL CONNECTORS

I recently purchased a couple of connectors from Timedata, who had a mention in Issue 7. The cost was £3 each. inclusive of VAT and carriage. They arrived by return of post, and work fine. A minor problem I encountered was that in the diagram supplied, giving the connection details. CTL1 and CTL2 were swapped. Sinclair also have this wrong in their documentation, so perhaps it is excusable.

Since the RS-232 connector only costs about £1.50, giving a total cost of £4.50, I wonder how Sinclair have the gall to claim that their connector is worth over £14, especially as they must be buying them in enormous quantities, compared to Timedata.

They are available from:-

Timedata Ltd.,
16 Hemmels,
High Road,
Laindon,
Basildon,
Essex SS15 6ED.

Leon Heller

QL Microdrives

Thank you for the copies of "Quanta", which I find good value. I hope readers will find the following of interest:-

Sinclair Research have been much criticised in the past for launching products before they are actually available, but I am pleased to say that this trend now seems to have been reversed. I seem to have found a product which is readily available before Sinclair have launched it - extra Microdrives for the QL.

On the right-hand edge of the QL, near the reset button is the slot designated for Microdrives to augment the two built-in to the QL. Page 2 of the Introduction to my QL Users' Guide states "ZX Microdrives are not suitable for use with the QL.", but recently I have read a letter in the computing press (sorry, forgotten where), that Spectrum Microdrives could be used as read-only devices with the QL. Filled with trepidation, I was not only able to confirm this, but was able to FORMAT and SAVE files on cartridges in these extra drives. Such files are LOADable in the two original drives, and I have now been using the QL with two extra ZX Microdrives for a week with no apparent snags. I'm glad I made provision for eight microdrives in my QL Utilities package!

To connect them, I unplugged the ribbon cable from the Spectrum's Interface 1, and plugged this into the Microdrive expansion port of the QL. The Microdrives therefore end up with the slots and LEDs facing away from you. Perhaps this is why Sinclair say they are not suitable! Is this compatibility exclusive to QLs fitted with 'dongles' (I have QDOS version PM still)? I do hope some of you will try this with later QLs and let us know. Don't sue me if something goes wrong; the User Guide must be right sometimes!

As you may have noticed, I am marketing a QL Utility package at £10; I enclose a copy of the instruction sheet so that you may have a better idea of its scope. I would like to make this available to members of the Independent QL Users' Group at the reduced price of £9, but wonder how to check that buyers are in fact members. A possible alternative would be that the price to members would be £9.50 if they order through the Group, and that 50p would go to Group funds. Perhaps the committee would like to consider this one.

Colin Wilton-Davies,
Hilltop,
St. Mary,
Jersey,
Channel Islands,

FORTRAN ON THE QL

This is a copy of a letter from Alison Maguire of Sinclair to Dom Gehring, one of our members.

Dear Mr Gehring

Thank you for your letter of 7th March 1984. We share your opinion that FORTRAN will be an important language for the QL and are about to conclude an arrangement with a software supplier to implement FORTRAN 77 on the QL as soon as possible.

We would certainly be very happy for companies like SIA to implement their off-shore design analysis programmes on the QL, though I must admit some surprise at the suggestion that it is feasible. Please suggest that they contact us direct if they have any plans in that direction.

Finally, I'm afraid I cannot share your enthusiasm for COBOL and do not think it is likely that we will expend a great deal of time and effort in making sure that it is made available on the QL.

AN EXCEEDINGLY DUMB TERMINAL PROGRAM FOR THE QL

Having just got one of Timedata's serial leads, I connected it up to a 25-way connector and got the QL talking to my TRS-80 Model II. I then plugged it into my acoustic coupler, wrote the following program and accessed the Display Electronics Distel data base, a bulletin board, and the LINC Electronic Journal running on Birmingham University's DEC System 10, with very little trouble, apart from some garbage from the crummy 'phone lines inflicted on us by BT.

```
100 CLS: BAUD 300: OPEN #4,ser2r
110 REPeat term
120   char$=INKEY$(#4)
130   IF char$<>" " THEN PRINT char$;
140   char$=INKEY$
150   IF char$<>" " THEN PRINT #4,char$;
160 END REPeat term
```

This little program could be placed on one line. How about a competition to see who can write the 'one-liner' that does the most?

Leon Heller

SCREEN DUMP FOR TANDY LP7/SEIKOSHA

The LP7 is a serial/parallel version of a Seikosha. It prints 480 dots/line and seven dots/pass, so I've ignored the first 32. I've also only used two of the colour bits, which I erase when printed (useful remote viewing).

I'd like to attend the next seminar in November. Keep up the good work.

Ken Price,
298 Longstone Road,
Iver Heath,
Bucks. SL0 0RN.

ONE MAN'S PRINTER

My wife, who is also my secretary, has agitated for some time about how nice it would be to have a daisy wheel typewriter at home like the one in the office, and, by way of blackmail, suggesting that she could even bring work home in that event. Being the proud possessor of a QL and the Quill prog. inevitably made me a potential printer customer and a daisy wheel would be quite acceptable to me. I did consider how practical it would be to explain to my dear one that if she wished to type an envelope, say:-

1. Switch on the QL and the printer.
2. Find the cartridge marked QUILL and place it in drive 1 and another cartridge in drive 2.
3. Press the FI key.
4. Wait a minute or two.
5. Press the F3 and 'N' key followed by SPACE.
6. Press the right arrow key until the '4' near the top of the screen is highlighted and then press ENTER.
7. Type in the name and address.
8. Place the envelope in the printer.
9. Press the F3 and 'P' keys followed by ENTER three times.
10. Remove the cartridges and replace them where found.
11. Switch off both machines.

If the QL was in a good mood and she had not missed a stroke she could then expect to have a correctly typed envelope!

I could see there was no way that she would feel that I had her interests at heart if I took that path, so I scanned the interfaceable typewriter market and selected a machine which, apart from the extra little cable into the back of it, looked like a machine which she could very well have selected if she had shopped on her own! My choice was the Brother CE-51 with their IF-50 external interface. Cost £300 for the typewriter and £150 for the interface (including VAT). The latter is a switchable parallel/serial with a 2k buffer and two way capability, but unfortunately, the CE-51 model is a Receive Only unit. The nice man from Wildings agreed to demonstrate at my office so I took my QL with power pack and monitor and the dozen or so cables every computer seems to need (including the 'free' printer lead that that nice Uncle Clive sent me for being so patient) to my office. The typewriter was brought in and my wife thumped away confidently but expressed the view that it was a pity it did not have the memory of her Olivetti ET221. That's no problem say's I plugging in the interface. I had prepared a cartridge with a one line program to copy a file from the microdrive to the serial port. I typed the magical incantation 'RUN' and.... nothing. The salesman and I quickly scanned the booklets which came with the units and set the dip switches in the way which seemed appropriate nothing. Call to his office to find an engineer - no success. After some fiddling and thumbing the booklets we were forced to give up pending expert advice. He kindly offered to leave the units in my care for a few days while he russedled up the expertise.

Back at home I sussed out the pin-outs on the Sinclair cable and they did not seem to agree with the IF-50 booklet. After several promises of help from Wildings they suggested I might ring Brother myself who were immediately able to advise the required connections. I took the 25 pin D plug apart and re-made the connections as the diagram below. Hooked it up and with my COPY ... TO SER1 got long lines of @ symbols on my paper. Progress indeed! Checked the manual and realised I had set the dip switches for odd parity so changed it to SER1 and hey presto! it listed fine, apart from a £ sign instead of * and lines longer than 80 characters being truncated.

Obviously the next step was to print out the documents which I had prepared using that slowest of all wordprocessors QUILL VERSION 1.02-ACB on my dongled machine. Blithely loaded my document and with F3 and 'P' and a few enter strokes got a lot more of those @ signs. Ah but the Install program should be considered at this stage so a reset and load 'install_bas' and after a whole lot of trial and error, much of it avoidable by care in reading the manual, I have only one particular problem to solve and that is how to get the machine to believe I mean it when I select CONTINUOUS FORMS OFF. I guess that must be QUILL failure cos' if it did not send the data for the next page the printer could not act on it. The Install

format which I am using is as listed below. You will note that in common with the manual I have had to illustrate this using normal parentheses instead of the 'greater than' and 'lesser than' symbols the program adopts as these are not supported on the daisy wheel. You will also note that I used TRANSLATE1 to get the £ sign and TRANSLATE2 to produce the exclamation which, surprisingly, is not provided on the English UK daisy.

```

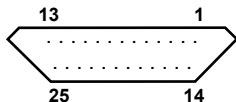
DRIVER NAME          CE-51
PARITY               ODD
BAUD RATE            9600
LINES/PAGE           66
CHARACTERS/LINE      96          (elite type - 12 per inch)
CONTINUOUS FORMS OFF
END OF LINE CODE     (CR),(LF)
END OF PAGE CODE     (FF)        (only cos it was there!)
PREAMBLE CODE        (ESC),C     (should clear the default margins)
POSTAMBLE CODE       (CR)
EMPHASIZE ON         (ESC),0     (not implemented on CE-51
EMPHASIZE OFF        (ESC),&    but suits other Brother's)
UNDERLINE ON         (ESC),E
UNDERLINE OFF        (ESC),R
SUBSCRIPT ON         (ESC),U
SUBSCRIPT OFF        (ESC),D
SUPERSCRIPT ON       (ESC),D
SUPERSCRIPT OFF      (ESC),U
TRANSLATE1           £,#
TRANSLATE2           !,',(BS),.

```

The only way to obtain the hash sign is to change to the American English daisy wheel, I'm afraid, since no one seems to produce both on the same wheel.

The connections for the 25 pin D plug are:-

As supplied by Sinclair	serial port	CE-51
7	black	1
2	white	2
3	green	3
20	blue	20
5	red	5
6	orange	not reqd.(+12v) say pin 12 4, 6 and 8 (link together)



Back of plug (or front of socket)

John Tanner, 43 Northumbria Drive, Bristol. BS9 4HL tel: 0272-623401

IQLUG PROGRAM LIBRARY - SOME NEW ARRANGEMENTS

There are now rather a lot of requests for library copies and I (Rob Sherratt) can't cope with them all, so I have been glad that a number of people have kindly volunteered their services. Incidentally, you should read QUANTA issue 7 and 8 for full details of the library service and what programs are presently available. There is 1 cartridge at the moment, and the second will be made available for the first time at the IQLUG workshop in November - bring your cartridges.

A full listing for cartridge 2 will appear in QUANTA issue 10; programs that will definitely be available are an assembler written in BASIC (costs £1), a 300 baud terminal emulator, and an excellent graphics editor written in BASIC.

In future please send only program contributions (and associated library requests perhaps) to Rob Sherratt. All other requests should be addressed to the nearest of the following people:

Ralph Horton
The Swan Inn
Nr. Braintree
ESSEX

Mr. D. Croombs
27, Lulworth Close
Farnborough
HANTS
GU14 8TP

Chris Cain
CSC Associates
32a St Catherines Rd
Bitterne Park
Southampton
SO2 4LS

Stephen Hewitt
Portsdown Vicarage
Portsdown Hill Road
Portsmouth
PO6 1BE

Allen Bartram
47 Templegate Cresc
LEEDS
W. Yorks
LS15 0EZ

Chris Parsons
2 Holliers Close
Sydenham
OXON
OX9 4NG

David Beales
20 Taylors Ave
Hoddesdon
HERTS
EN11 8QE

Brian Davies
26 Guy Garth
Hedon
Humberside
HU12 8NP

Mr. M. Grew
10 Station Road
Ackworth
PONTEFRACT
W. Yorks
WF7 7NA

Mike Finley
Chankly Boreel:
15 Amity Road
Reading
Berks
RG1 3LN

Gary Williams
18 Ilmington Road
Kenton
Harrow
Middx.
Tel: 01-907 2360

The plan is that I will keep all the people above updated with the latest software, and they (poor souls) will do all the copying using my super-fast machine code-based cartridge duplicator program (which costs £1 to anyone else who wants it - payable to Rob Sherratt). If there are any problems with the library service, then please write to me or give me a ring. We need lots more program contributions, and I haven't been sent anything for use with archive or abacus yet. Isn't anyone using the PSION programs?

Rob Sherratt
"Betheden"
129 Melford Way
Felixstowe
SUFFOLK
IP11 8UH

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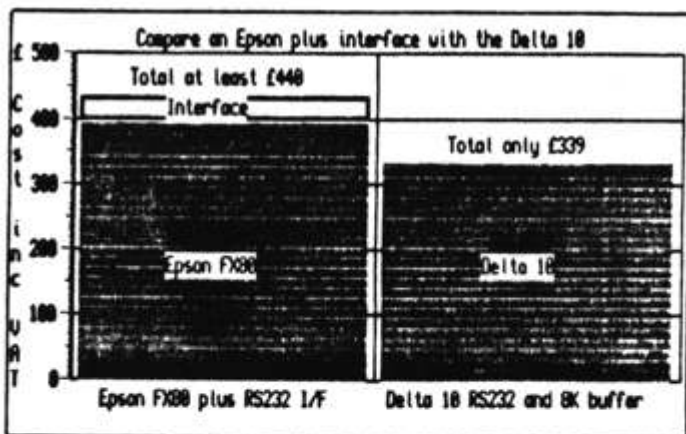
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